

# Zoltán M. Jakab: Consequences of global imbalance corrections for Hungary

*There are numerous signs of the emergence of global imbalances in world economy. This is reflected by the fact that of the developed countries the USA is producing a substantial, historically unprecedented magnitude of current account deficit vis-à-vis the current account surplus of a well-defined group of mainly emerging countries and of some developed countries. This is probably not an optimal situation, and in the course of solving this problem there is the question of what impacts the Hungarian economy may be exposed to and what steps Hungarian monetary policy can take. In examining the various scenarios of global adjustment, it is important to distinguish between an adjustment originating in Asia or in the USA. The former stimulates the Hungarian economy, while the latter temporarily hinders the Hungarian economy. A correction triggered by the markets has stronger output consequences for the Hungarian economy, than that of a restrictive fiscal policy in the USA. Hungarian monetary policy has an effect on whether output or inflation will become more volatile. Hungarian monetary policy tracking the ECB involves higher fluctuations in inflation and lower changes in GDP, whereas the situation is just the opposite in case of independent policies. If the exchange rate of the forint weakens due to a decline in global risk appetite, this would initially result in growing inflation, although over the longer term even lower GDP and inflation cannot be ruled out either.*

## INTRODUCTION

By global imbalances we mean that amongst the developed countries, the USA is producing a substantial and historically unprecedented magnitude of current account deficit vis-à-vis the current account surplus of a well-defined group of mainly emerging countries and of some developed countries. In addition to other effects, the globalisation of foreign trade and financial markets provides more opportunities for credit and capital flows between countries. The simplest argument would suggest that certain countries' having current account deficits is not a problem in its own right. On the contrary, it is an expressly useful phenomenon, since countries in a favourable position in the business cycle extend loans (produce current account surpluses) to countries which happen to be in a less favourable position. In addition, it is also not a problem, if countries which are growing at a rapid pace temporarily run current account deficits. It is worth it to become temporarily indebted and to pay back the debt later, when business conditions are more favourable, or later, when revenues are much higher, and to thus transform future welfare into the present.

However, contrary to the outlook based on this simplified theoretical framework, an opposite situation has developed. While emerging countries are exporting capital (have current account surpluses), the USA the richest region in the world is importing capital (has a current account deficit). At the same time, those developed coun-

tries where business conditions are not favourable at present (e.g. the euro area and Japan) record broadly balanced current accounts or slight current account surpluses. Therefore, the behaviour of most countries is far from what would be optimal in the long run.

One question which is frequently asked is how a correction of global imbalances can occur.<sup>1</sup> Numerous studies and analyses have already dealt with this subject, but they have mainly focused on large economic regions like the USA, the euro area, China and the Far East. The subject, or rather the global economic problem is not new, but the adjustment projected by economic theory has taken place only in a limited manner, which may even mean that a part of it is 'still to come'. If this is true, one important question is how it will affect Hungary. In a sense, I am trying to fill in a gap by investigating how adjustment scenarios influence Hungary and especially the monetary policy of the Magyar Nemzeti Bank.

Global imbalances started to evolve in the late 1990s: this process can be divided into two different phases. One common feature of these two phases is that a deterioration in the net savings position of American households is typical of both. However, in these two periods the USA pursued different fiscal policies. In the first phase, starting from 1997, the increase in productivity observable in the US economy and the related strong expansion of investment can broadly be held responsible for the opening of the investment-savings position, i.e. for the current account

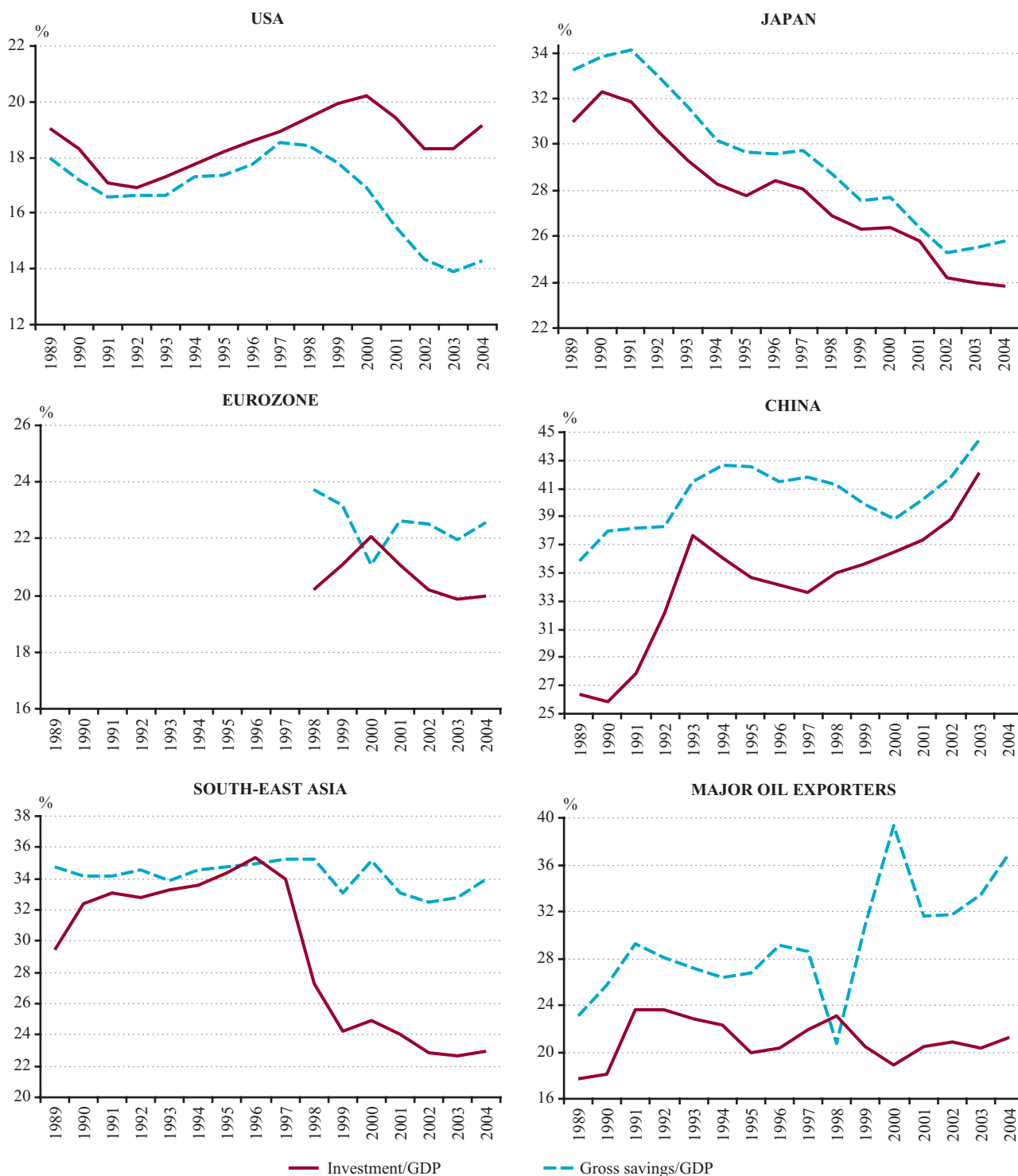
<sup>1</sup> The analysis is based on the MNB study titled *Correction of global imbalances: illustrative scenarios for Hungary* ('Globális egyensúlytalanságok: illusztratív scénáriók Magyarországra') by Cecília Hornok, Zoltán M. Jakab and Máté Barnabás Tóth (2006). For details see this study.

deficit. In the phase since 2001 to date, investment activity in the USA has slowed down, whereas further deterioration of the balance of payments has been coupled with the joint deterioration of the savings of households and of the general government.

By 2005, the current account deficit of the USA had reached 6% of GDP, i.e. approximately 800 billion dollars. However, despite the series of current account deficits, the net external position of the USA deteriorated only slightly, as the USA is the largest capital exporter as well.

## Chart 1

### Savings and investment as a proportion of GDP in major regions



Source: IMF International Financial Statistics.

It was advantageous for the USA that its external debts are mainly dollar-based and of low yields (debt-type), whereas its foreign investments are with higher yields and in foreign exchange, and there have been significant revaluation profits on the latter.

In parallel with this, in a number of Asian and oil-producing<sup>2</sup> emerging countries the development of current account surpluses can be observed. It means that the balance between savings and investment has increased. In Asia, the improvement of the balance was the result of an investment ratio significantly falling compared to historical levels and of moderately declining savings ratios. China is an exception, where the investment ratio, which is exceptionally high by international standards as well, is coupled with an even higher whole-economy savings ratio. Oil-producing countries are trying to smooth in time the consumption of their additional income from high oil prices, whereas in Asian countries with a surplus, insufficient consumption demand, a shortage of attractive investment opportunities from a business aspect and socio-demographic factors<sup>3</sup> may provide an explanation.

According to numerous (although disputed) opinions, the fiscal policy of the United States, which became increasingly loose following the turn of the millennium, together with the growing indebtedness of households can be held responsible for the decline in the savings ratio. However, it is important to mention that historically there is no proven causal relationship between the US budget balance and developments in the US current account. The relatively low US interest rate level may also explain that the asset price movements, which involve significant wealth effects (upturn of the equity market prior to the turn of the millennium, and mainly an increase in real estate prices at present), can also be held responsible for the deterioration of US households' savings positions.

The exchange rate policy pursued by Japan, China and other South-East Asian countries may also play a role in the development and continuance of imbalances. By limiting<sup>4</sup> the appreciation of their currencies, these countries support their sectors producing tradable goods, which has resulted in an undervaluation of these currencies' real exchange rates against the US dollar, and these countries

have accumulated significant foreign exchange reserves. The moderate domestic demand attributable to the lack of structural reforms in certain developed European countries and Japan may also have contributed to the deepening of global imbalances, although this impact can be considered relatively limited.

## HOW CAN THE ADJUSTMENT PROCESS EVOLVE?

According to mainstream theoretical and empirical literature dealing with the subject (see Eichengreen, 2006), global imbalance cannot be sustained for a longer period of time. However, it is still uncertain when and with what timing a possible correction will take place, and what regions it will affect, to what extent. It is presumable that in the course of the adjustment the US savings-investment gap will close while US whole-economy savings will increase, simultaneously with a decline in Asian countries' – especially China's – savings position. The increase in whole-economy savings of the USA may start from an improvement in households' net savings position, which may be facilitated by an increase in real interest rates and a correction of the real estate market. In addition, a tightening of fiscal policy may also contribute, although its impact greatly depends on the extent of households' consumption smoothing. In the simulations, the cases of a US house-price correction with wealth effect, a fiscal balance improvement (tax increase in the USA), a permanent increase in consumption in China and an increase in the risk premium in the USA (weakening of the dollar) are examined. The significance of the latter has been pointed out many times; according to Obstfeld and Rogoff (2005) and Blanchard et al. (2005), there would have to be a significant depreciation of the real effective exchange rate of the US dollar in order for the current account of the USA to become balanced. However, Gourinchas and Rey (2005) as well as Lane and Milesi Ferretti (2004) point out that in the event of a major USD depreciation, revaluation effects influencing external asset and debt holdings may facilitate a smoother evolution of the process over time.

In order to examine the effects on Hungary of the possible corrections of global imbalances, we carried out several types of model simulations using the NiGEM world econo-

<sup>2</sup> Recently, within the capital flows financing the current account deficit of the USA the ratio of the savings of petroleum exporting countries has grown markedly, which is attributable to the oil price increases of recent years.

<sup>3</sup> Additional propensity to save appearing due to the ageing of the society and the deficiencies of the social security system.

<sup>4</sup> One may ask how it is possible to divert real exchange rates by monetary policy instruments for such a long time: the main reason is that in a significant group of countries, and particularly in China, the price system is not liberalised yet, and prices are kept artificially and centrally low.

my model and the MNB's Quarterly Projection Model (NEM).<sup>5</sup> In all the cases examined a lasting decline in the GDP-proportionate current account deficit of the USA takes place, the size of which is always 0.25 percentage point in the fourth year following the shock. The extent of the improvement of the balance is very moderate. In order to maintain the external balance of the USA a deficit reduction on the order of ten times this size may be needed. In the case of a realistic correction path, combinations of the examined scenarios may take place. Moreover, in the event that the correction takes place faster, so-called non-linear effects may also occur, which cannot be captured with the models applied. Our examinations do not aim at presenting a complete correction: we only demonstrate through what channels the small shifts of different origin in the direction of the US correction pass through and what directions of shifts they induce in Hungary.

Model simulations also take account of economic policy reactions. Two types of solutions were selected to handle the Hungarian monetary policy. The main scenario is that the MNB follows the ECB's interest rate policy. In addition, however, with regard to each simulation, the case of independent Hungarian monetary policy is also examined.<sup>6</sup>

In the first simulation I assume a permanent tightening of US fiscal policy corresponding to 0.5 per cent of GDP, achieved by the administration entirely by increasing income tax revenues. In the second case, relying on the latest studies examining the US real estate market prices, I postulate a 9 per cent real estate price decline in the USA.<sup>7</sup> In the simulations this magnitude of lasting nominal price decline in the real estate market is required for the desired (0.25 percentage point) decrease in the current account deficit. As a third possibility, I analyse the effects of a faster expansion of aggregate demand in Asia (approximately 1 percentage point faster expansion annually). Finally, I examine a scenario in which the risk premium for dollar assets increases in a way to permanently devalue the dollar at a level of around 10 per cent.

Two important lessons can be drawn from the model simulations. *First*, in respect of the short-term consequences of correction emanating from the USA on the output of the euro area, those enforced by the market are higher (modelled by the increase in the dollar risk premium or the fall in real estate prices) than if this correction was the consequence of an economic policy step (e.g. a tax increase in the USA). This is even more so, if we also take into

**Table 1**
**The effects of the four-shock scenarios in the USA and the euro area**

(Percentage points and, in the case of the exchange rate, percentage deviations from the baseline scenario)\*

	US fiscal tightening		Real estate price shock		Asian demand shock		US dollar shock	
	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year
USA								
GDP	-0.19	-0.12	-0.60	0.09	0.03	0.08	0.03	-0.39
CPI	0.06	-0.02	0.04	-0.18	0.03	0.04	0.62	1.29
CA/GDP	0.02	0.25	0.09	0.25	0.05	0.25	-0.22	0.25
Eurozone								
GDP	-0.05	-0.01	-0.11	0.02	0.05	0.08	-0.21	0.04
CPI	-0.07	-0.06	-0.09	-0.08	0.03	0.03	-0.38	-0.28
CA/GDP	0.01	-0.10	0.04	-0.11	0.01	0.30	-0.02	-0.10
EUR/USD exchange rate	-1.69	-1.91	-2.11	-1.46	0.22	0.14	-9.55	-10.44

\* All shock scenarios were set in a way to result in the USA in an 0.25 percentage point current account improvement compared to the main scenario at the end of the 4<sup>th</sup> year.

<sup>5</sup> Using the models to analyse issues of this kind requires caution: typically such models are only able to capture regular correction mechanisms and have a limited ability to depict reactions of the financial institutional system. A third deficiency is that in these models the costs of intermediate production (e.g. the consequences of oil prices for cost inflation) are not detailed. Nevertheless, using the NiGEM model has advantages, as important global economic relationships are modelled. The NEM, on the other hand, model may be a suitable framework for describing the Hungarian economy.

<sup>6</sup> In case of China, a floating exchange rate system was assumed. Although it is indisputable that the Chinese and other Far-East exchange rate policies may play a role in maintaining global imbalances, in line with other studies (e.g. Faruquee at al, 2005), we found that the assumption regarding the Asian exchange rate policy (fixed or floating exchange rate) had only a slight effect on Hungary.

<sup>7</sup> See: Holland and Metz (2006).

account that a shock of market origin may easily pass through, spreading to other markets, and may adversely affect economic agents' expectations over the longer term as well.

*Second*, the disadvantageous costs of correction to be borne by developed economies can be significantly reduced by the decline in the net savings position of Asian countries.<sup>8</sup> Although one of the elements of an Asian adjustment may be the abandonment of pegged exchange rates and thus an appreciation of currencies, a really strong and lasting global economic effect could result from a gradual shift in the currently strongly export-oriented countries towards a path of growing domestic (mainly consumption) demand. From the perspective of the euro area, a correction stemming from Asia would also be advantageous because then the dissolution of global imbalances would take place between the current accounts of the USA and Asia.

## CONSEQUENCES FOR HUNGARY

Hungary's foreign trade relations are mainly oriented towards European countries; ties with the USA are only indirect, i.e. mostly through other European countries. Therefore, effects on Hungary mainly depend on develop-

ments in the euro area. Although the consequences for Hungary are similar to those on the euro area, some important differences can be observed. On the one hand, the *short-term* effect on growth and inflation appears in a cushioned manner compared to that of the euro area. On the other hand, however, due to the significant openness of the Hungarian economy, consequences related to the external equilibrium are more considerable. Over the longer term, the effects are greatly influenced by the character of monetary policy. We examine the cases of two kinds of monetary policies: one that follows the ECB's interest rate policy, and one that operates according to an independent monetary policy rule.

If the exchange rate is only influenced by the interest rate differential, the case of Hungarian monetary policy following the ECB's interest rate steps means an unchanged forint/euro exchange rate as well. It is clear that both in terms of economic growth and external equilibrium the least advantageous is the correction enforced by international money markets, i.e. the risk premium shock of the dollar. The other three correction possibilities are coupled with more moderate GDP consequences, similar to those of the euro area. A possible speed-up of import demand of the Asian region may have a favourable impact on Hungarian GDP.

**Table 2**

### Effects of the four shock scenarios in Hungary

(Percentage points and, in the case of the exchange rate, percentage deviations from the main scenario)

	US fiscal tightening		Real estate price shock		Asian demand shock		US dollar shock	
	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year	1 <sup>st</sup> year	4 <sup>th</sup> year
Shadowing the ECB's policy (constant HUF/EUR exchange rate)								
GDP	-0.02	-0.04	-0.03	-0.04	0.01	0.07	-0.10	-0.15
CPI	-0.02	-0.08	-0.03	-0.13	0.01	0.09	-0.10	-0.36
CA/GDP	-0.04	-0.14	-0.06	-0.18	0.03	0.13	-0.20	-0.53
Short-term interest rate	-0.09	-0.17	-0.13	-0.22	0.07	0.20	-0.38	-0.66
Independent Taylor rule								
GDP	-0.02	-0.03	-0.09	-0.01	0.01	0.13	-0.02	0.08
CPI	-0.02	-0.03	-0.03	-0.12	-0.01	0.01	-0.10	-0.12
CA/GDP	-0.03	-0.13	-0.09	-0.17	0.01	0.23	-0.10	-0.51
Short-term interest rate	-0.03	-0.18	-0.06	-0.46	-0.07	0.08	-0.12	-0.95
HUF/EUR exchange rate	0.04	0.19	-0.10	-0.15	-0.88	-1.48	0.00	0.61

<sup>8</sup> In this case world oil prices would also increase. As noted earlier, oil prices are generally modelled through their impacts on aggregate demand in the NiGEM model. Cost-push inflationary effects through increased production costs are not modelled. Hence, the inflationary impact of an Asian demand shock may be underestimated.

There is a great difference, depending on whether the correction takes place via the exchange rate of the US dollar or via US real estate prices. In terms of inflationary effects, corrections belonging to the first type usually have more significant inflationary consequences (decline in inflation) over the longer term. The Asian demand shock adds to inflation, whereas the other three reduce inflation. Overall, Hungarian monetary policy following European interest rate steps – at least over the examined four-year horizon – is unable to perfectly stabilise Hungarian inflation.

However, assuming an independent Hungarian monetary policy, changes in the forint/euro exchange rate are also allowed. Over the longer term, inflationary effects are kept under better control by independent monetary policy as compared to a policy tracking that of the ECB. Except for the US real estate price scenario, this can reduce inflationary effects to between one half and one ninth. However, stabilisation of inflation is not perfect in this case either, and in terms of a longer-term average the GDP consequences in the case of independent monetary policy are not much different from a policy following the lead of the ECB. The difference is that in this case short-term fluctuations are higher.

### A disorderly correction amplifies the negative impacts affecting the Hungarian economy

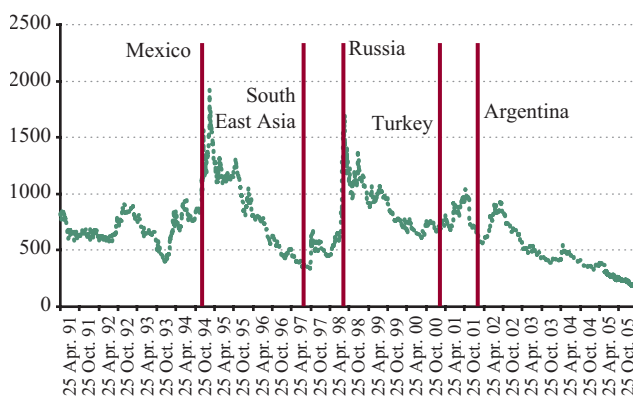
The aforementioned simulations provide a basis with regard to the process of the correction of global imbalances and its effects on Hungary. However, they are not suitable for describing the interactions taking place in the event that crisis-like corrections, the likelihood of which is low and which involve significantly greater macroeconomic effects than those mentioned above, occur together with various shock effects.

Let us examine how an irregular, crisis-like correction might take place. The magnitude and direction of capital flows shown in the financial account can change much faster than this, which may even result in serious effects on the real-economy side. According to international experience (see Tóth, 2005), current account corrections taking place with a sudden stop or change of directions in capital flows were mainly typical of emerging markets. In the course of corrections like this, a sudden increase in the risk premium expected of dollar-denominated emerging market assets was observed, which typically had a negative effect on most emerging countries with external imbal-

ances in the given period of time. This is well-illustrated by the developments in risk premiums around balance of payments correction episodes in major emerging markets. However, in developed countries, most balance of payments corrections took place in parallel with steady capital flows (see Freund, 2000).

## Chart 2

### Risk premium developments



\* JP Morgan Emerging Market Bond Index, bond index calculated from the dollar-denominated sovereign bonds of 27 emerging countries.

Experiences suggest that balance of payments corrections in emerging countries were often coupled with a significant weakening of the exchange rate, increases in yields and a decline in GDP. On the contrary, in developed countries they tended more to involve temporary yield increases, weakening of the real exchange rate and a minor growth sacrifice (see Croke et al., 2006).

What could Hungary expect, if a disorderly correction of global imbalances was coupled with a sudden and substantial increase in the risk premium on forint assets? Two effects have to be taken into account: on the one hand, there would be depreciation pressure on the forint, and on the other hand, corporations' user cost of capital would increase, whereas capital demand and investment would decline. Using model simulations, I present to what extent all this changes our picture of the effects on the Hungarian economy. Although a complete numerical comparison is not possible, I nevertheless attempt to demonstrate how uncertainty affecting emerging markets by itself influence the Hungarian economy. The complete effect would be some kind of a result of the effect mechanisms presented now and in the previous chapter, although the ratio of the roles played in such a situation by emerging market anomalies and correction paths starting from developed countries cannot be foreseen.

**Table 3****Effect of the risk premium shock scenario in Hungary***(Percentage points and, in the case of the exchange rate, percentage deviations from the main scenario)*

	1 <sup>st</sup> year	4 <sup>th</sup> year
There are no extra capital cost increasing factors		
GDP	0.16	-0.08
CPI	0.15	-0.14
CA/GDP	0.65	0.80
Short-term interest rate	0.81	-0.03
HUF/EUR exchange rate	7.33	1.63
There are extra capital cost increasing factors		
GDP	-0.13	0.04
CPI	0.17	-0.34
CA/GDP	0.95	1.44
Short-term interest rate	0.95	-0.75
HUF/EUR exchange rate	8.70	3.00

It is also a question, whether in addition to an increase in the user cost other effects that may result in behaviours different from traditional capital demand explanations also commence. For example, one of them is that in the case of the corporate (and household) sector(s) the risk premium shock and the weakening nominal exchange rate would trigger balance sheet revaluation effects through the credit channel (especially for companies indebted in foreign exchange). These effects were modelled using a scenario characterised by a higher increase in user costs. Disregarding the balance sheet impact, the risk premium shock fundamentally results in a weakening of the forint, which via the improvement in net exports initially raises GDP growth, associated with a simultaneous improvement in the balance of payments. Initially, inflation increases due to the depreciating exchange rate, then it starts to decline slightly, due to effects related to a fall in investment. The results of the simulation based on the assumption of a higher increase in user cost show a reaction of opposite direction in growth and a stronger reaction of the same direction in the current account balance. However, in this case the medium-term decline in inflation is more significant, whereas the initial increase in inflation is broadly identical with that observed in case of the lower user cost of capital.

## CONCLUSIONS

I have demonstrated that there are several ways that a global correction can occur, and it is of key importance for the Hungarian economy how it takes place. From the

aspect of Hungary, there is a significant difference whether the effects coming from Asia or the US dominate in the course of the correction. The former stimulate, the latter temporarily hinder the Hungarian economy. It is also very important whether the initial adjustment is reflected in the dollar exchange rate, in the US real estate prices or rather in demand factors (tax increase). Money market effects of the correction also play an important part. The reaction of the Hungarian monetary policy may be of key importance, whether output or inflation becomes more volatile. In the event that the Hungarian monetary policy follows the ECB in a passive manner, it involves higher inflation fluctuations as compared to pursuing an independent monetary policy. As a longer-term average, the effect on output is practically identical in case of both monetary policy reactions.

However, the above considerations do not take account of possible developments in financial markets. Therefore, completion with an analysis of the effect of an irregular, crisis-like global correction on Hungary is also necessary. We found that due to the weakening of the exchange rate, inflation would initially increase, but later the decline in investment due to the increasing user cost would offset this, and in the medium term, as a result of the lower economic growth, an even lower inflation could evolve, while the direction of the effect on GDP growth is not clear. The latter depends on the magnitude of the importance of increase in user cost compared to the initial growth-stimulating effect of the temporarily weaker real exchange rate.



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